

ABSTRACT

A laser power grid for operation with data networks employs WDM and incorporates wavelength addressing. The laser power grid (100) includes a laser power supply station (110) comprising a plurality of continuous-wave laser sources (112, 114, 115, 116, 118), a laser distribution grid (130) for distributing light propagations of different wavelengths throughout a data network and an optical switching network (142, 144, 145, 146, 148) coupled to the laser distribution grid for locally turning the laser power on when it is needed. The laser power grid replaces systems of tunable lasers. It is considerably faster and cheaper than systems of tunable lasers and produces less waste heat within the data network surroundings. The laser power grid incorporates parallel fast optical communication in complex multi-node communication and computer networks and enables the implementation of burst switching and packet switching by wavelength addressing.